

2014 IEEE 13th International Symposium on Parallel and Distributed Computing

(ISPDC 2014)

**Porquerolles Island, France
24-27 June 2014**



**IEEE Catalog Number: CFP14337-POD
ISBN: 978-1-4799-5920-4**

2014 13th International Symposium on Parallel and Distributed Computing

ISPDC 2014

Table of Contents

Preface.....	viii
Symposium Organization.....	ix
Program Committee.....	x

Invited Speakers

Actors Programming for the Mobile Cloud	3
<i>Gul Agha</i>	
Distributed Implementation of Constrained Systems Based on Knowledge	10
<i>Susanne Graf</i>	
Parallel and Distributed Computing: Memories of Time Past and a Glimpse at the Future	14
<i>Dan C. Marinescu</i>	
Themes in Broadcast Calculi	16
<i>K.V.S. Prasad</i>	
Parallel Systems from 1979 to 2014: 35 Years of Progress?	23
<i>Roger Shepherd</i>	

Accepted papers for ISPDC 2014

A DSL for Integrative Parallel Programming	27
<i>Victor Eijkhout</i>	
A Fair Comparison of VM Placement Heuristics and a More Effective Solution	35
<i>Xi Li, Anthony Ventresque, John Murphy, and James Thorburn</i>	
Agent-Based Memory Access for Many-Core CMPs	43
<i>Weiwei Fu, Mingmin Yuan, Tianzhou Chen, and Li Liu</i>	
A GPU Framework for Sparse Matrix Vector Multiplication	51
<i>B. Neelima, G. Ram Mohana Reddy, and Prakash S. Raghavendra</i>	

A Parallel Task-Based Approach to Linear Algebra	59
<i>Ashkan Tousimojard and Wim Vanderbauwheide</i>	
Applicability of the Imprecise Computation Approach for the QoS Enhancement in Distributed RTDBMS	67
<i>Malek Ben Salem, Emna Bouazizi, Issam Hamdi, and Rafik Bouaziz</i>	
Bid-Centric Cloud Service Provisioning	73
<i>Philip Healy, Stefan Meyer, John Morrison, Theo Lynn, Ashkan Paya, and Dan C. Marinescu</i>	
Commodity Hardware Performance in AES Processing	82
<i>Grigore Lupescu, Laura Gheorghe, and Nicolae Tapus</i>	
Dataflow Programming Using AGAPIA	87
<i>Ciprian I. Paduraru</i>	
Determining the Optimal Redistribution for a Given Data Partition	95
<i>Thomas Herault, Julien Herrmann, Loris Marchal, and Yves Robert</i>	
Enhancing Throughput of Scalable Distributed Two-Layer Data Structures	103
<i>Krzysztof Sapiecha, Grzegorz Łukawski, and Adam Krechowicz</i>	
From MultiTask to MultiCore: Design and Implementation Using an RTOS	111
<i>Célio Estevan Morón, Antonio Ideguchi, Marcio Merino Fernandes, and Allen D. Malony</i>	
Leveraging Data-Parallelism in ILUPACK Using Graphics Processors	119
<i>José I. Aliaga, Matthias Bollhöfer, Ernesto Dufrechou, Pablo Ezzatti, and Enrique S. Quintana-Ortí</i>	
Load Balancing of Java Applications by Forecasting Garbage Collections	127
<i>A. Omar Portillo-Dominguez, Miao Wang, Damien Magoni, Philip Perry, and John Murphy</i>	
Local Linear Time Convergence of Primal-Dual Energy Minimization Algorithm for Parallel Processing	135
<i>Håkan Lennerstad</i>	
Mobile Ad-hoc Network Management in the Cloud	140
<i>Hazzaa Naif Alshareef and Dan Grigoras</i>	
Multithreaded Direction Preserving Preconditioners	148
<i>Pawan Kumar</i>	
Real-Time Reconfigurable Scheduling of Aperiodic OS Tasks	156
<i>Hamza Gharsellaoui and Samir Ben Ahmed</i>	
Resource Trust Management in Auto-Adaptive Overlay Network for Mobile Cloud Computing	162
<i>Florin Pop, Oana-Maria Citoreanu, Ciprian Dobre, and Valentin Cristea</i>	

Robustness Prediction and Evaluation of Divisible Load Scheduling on Computing Systems with Unpredictable Variations	170
<i>Mahadevan Balasubramaniam, Ioana Banicescu, and Florina M. Ciorba</i>	
Scalable Multi-core Implementation for Motif Finding Problem	178
<i>Mostafa M. Abbas, Qutaibah M. Malluhi, and P. Balakrishnan</i>	
Three-Level Parallelism for FDK Algorithm Using Multi-GPU Based Cluster System	184
<i>Xing Wei, Bin Yan, Lei Li, Feng Zhang, Hongkui Liu, and Min Guan</i>	
Understanding and Optimizing GPU Cache Memory Performance for Compute Workloads	189
<i>Kyoshin Choo, William Panlener, and Byunghyun Jang</i>	
WOODSTOCC: Extracting Latent Parallelism from a DNA Sequence Aligner on a GPU	197
<i>Stephen V. Cole, Jacob R. Gardner, and Jeremy D. Buhler</i>	
Author Index	205